

Features

- ESD Protection of One Line
- Low Clamping Voltage
- Ultra Low Capacitance
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

IEC61000-4-2 (ESD)	Air	±20KV
	Contact	±15KV
Peak Pulse Current (8/20µs)	I _{PP}	4.5A
Peak Pulse Power (8/20µs) ^(Note2)	P _{PK}	80W
Operating Junction Temperature Range	T _J	-55°C to +125°C
Storage Temperature Range	T _{STG}	-55°C to +150°C

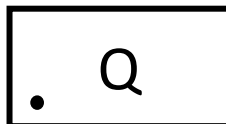
Note :

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Non-repetitive current pulse 8/20 µs exponential decay waveform according to IEC61000-4-5.

Internal Structure

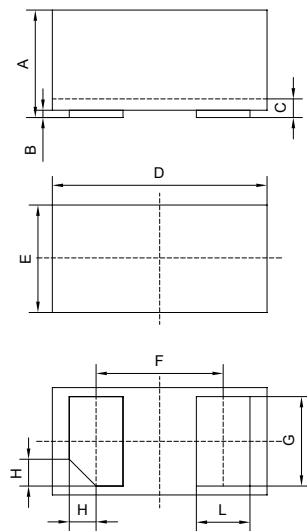


Marking Code



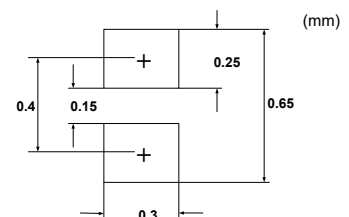
ESD Protection Device

CSP0201

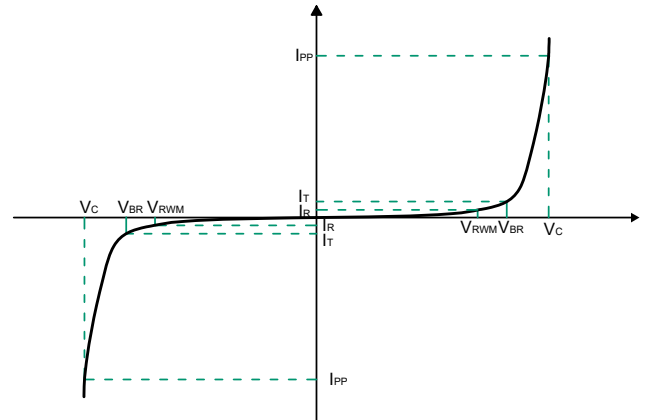


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.008	0.013	0.21	0.33	
B	0.000	0.002	0.00	0.05	
C	0.005	0.007	0.12	0.18	
D	0.022	0.026	0.55	0.65	
E	0.010	0.014	0.25	0.35	
F	0.014		0.355		TYP.
G	0.008	0.011	0.215	0.28	
H	0.003		0.079		TYP.
L	0.006	0.009	0.15	0.22	

SUGGESTED SOLDER PAD LAYOUT



Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PK}	Peak Pulse Power
C_J	Junction Capacitance



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6	7.5	8.5	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$			0.5	μA
Clamping Voltage ^{Note1}	V_C	$I_{PP}=1A, t_p=8/20\mu s$		10		V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=4.5A, t_p=8/20\mu s$		18	21	V
Junction Capacitance	C_J	$V_R=0V, f=1MHz$		0.25	0.35	pF
Dynamic Resistance ^{Note2}	R_{DYN}	TLP, $t_p=100ns$		1.65		Ω

Note :

1. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

2. TLP parameter: $Z_0=50\Omega, t_p=100ns, t_r=2ns$, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

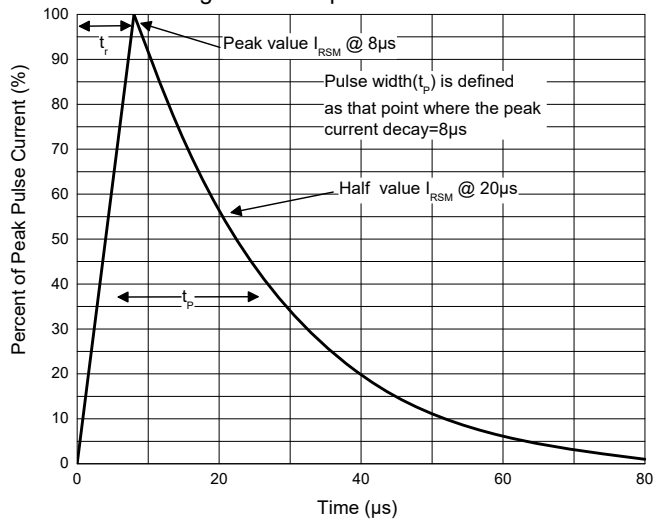


Fig. 2 - Non-Repetitive Peak Pulse Power



Fig. 3 - Capacitance Characteristics

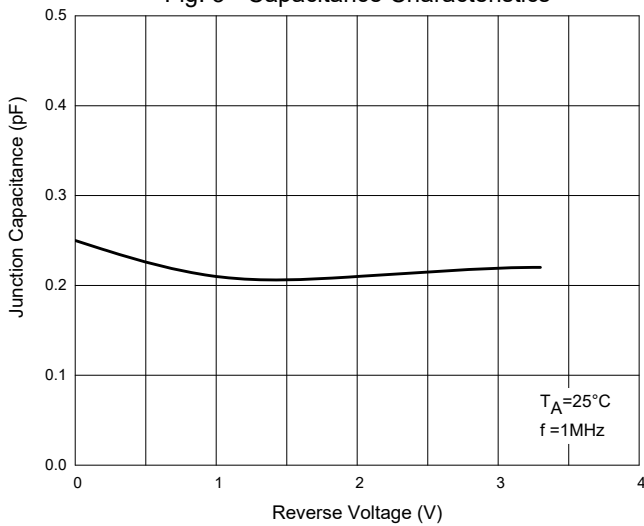


Fig. 4 - Clamping Voltage Characteristics

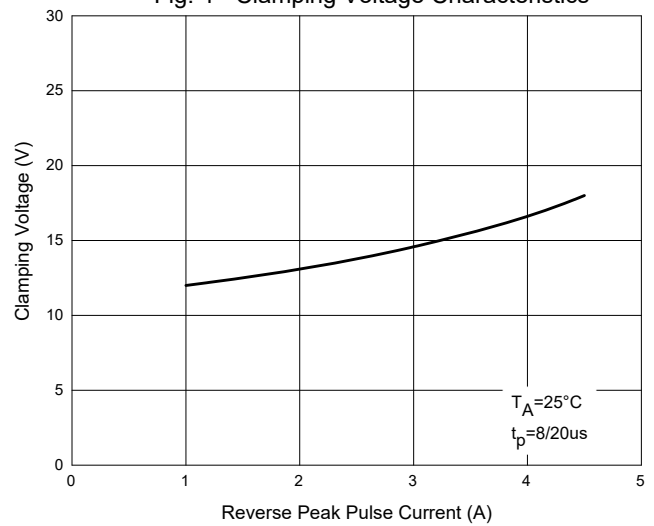


Fig. 5 - TLP Curve

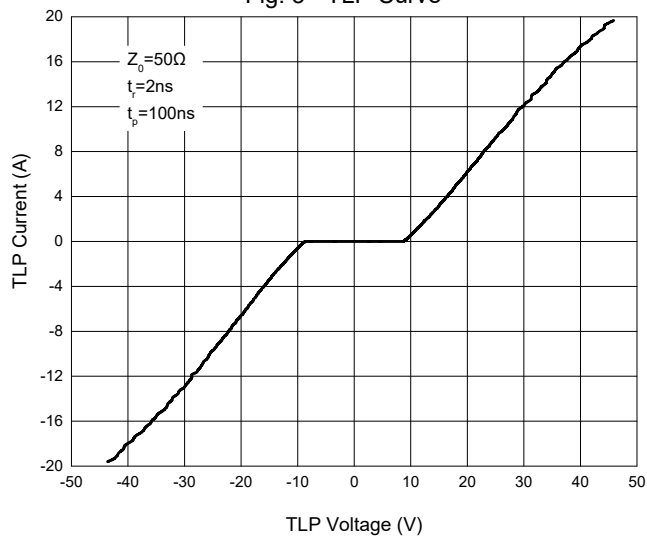
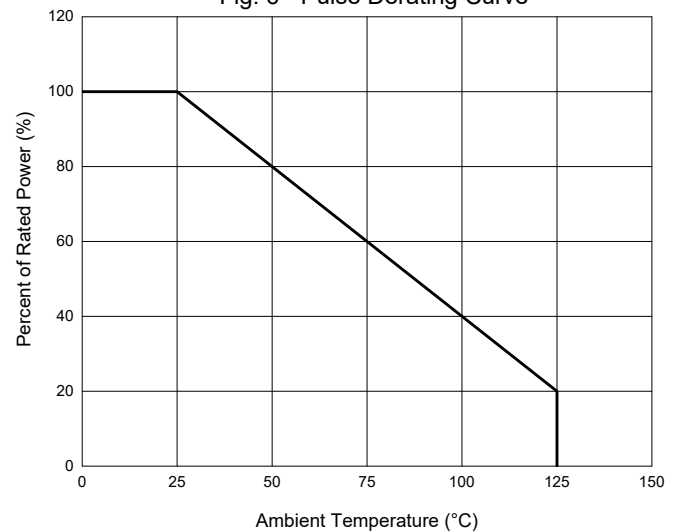


Fig. 6 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel

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